Programming a Deliberative Direct-Democracy

A Method of Open-Source Self-Governance

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Version 1.02

Tags: Efficasync, deliberation, direct democracy, self governance, open source, nomic, deme, graph-set, meta-graph.

Many thanks to the numerous people whose ideas and feedback helped create this work, and thanks to those who will contribute and modify it in the future.

July 5th, 2007

Introduction – The Nomic, the Meta-Graph, and the Graph-Set

Efficacy – capacity to produce a desired result or effect.

Synchronized – operating in unison.

Efficasync[1] is a method of open-source self-governance, where all the members of a group have the ability to examine, discuss and modify their group's set of operational goals, reasonings, constraints, procedures and arrangements. In computer lingo, each member of such a group has both 'read' and 'write[2]' permissions to this set of governing statements. As demonstrated by the previous two lines, this document occasionally recasts a few traditional views of governance into a computer programmer's frame of reference. The programmer's paradigm holds a new, and potentially valuable, perspective for democratic governance. This document's purpose is to describe a specific way, based on this new perspective, that a directly-democratic group's governing infrastructure could be arranged. In doing this, the three main components which constitute Efficasync are explained: a Nomic, a particular graphical interface, and a starting set of 'rules.' This document was written with the intention of presenting a prototype for emulation and extension by groups wishing to operate as open-source self-governing entities.

Efficasync describes a directly-democratic group that is premised upon a feedback loop. The working argument here is that the people who make decisions for the group should be the same people who feel the effects of those decisions, so that a self-correcting negative feedback-loop may exist. The target state which this feedback loop maintains is dynamically defined by the group's membership, specifically through their internal deliberations and decision-making. Akin to how the open-source programming community allows anyone to contribute code, Efficasync allows any group member the ability to create potential elements, or potential element versions, of their group's governance. Using this ability, groups are encouraged to arrange themselves in ways that maximize each member's exposure to the various results of their governance. If this is accomplished then each member becomes both a source and a sensor of their governance (see figure 1), which is a holistic perspective from which members may be well suited to effectively sustain and evolve their system. Just as programmers look for problems in their code by observing the unintended effects it generates at runtime, group members can observe unwanted outcomes created by their set of coordination statements and respond by adding helpful elements, removing detrimental elements, and modifying flawed elements. A greater diversity of collective survival strategies can be conceived by a group with a greater number of perspectives on their own shared existence. The trick is how to deal with all these differing perspectives.

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[1] Please excuse the silly names. There are several.
[2] There are caveats to the writing aspect, which will be explained in section 2.
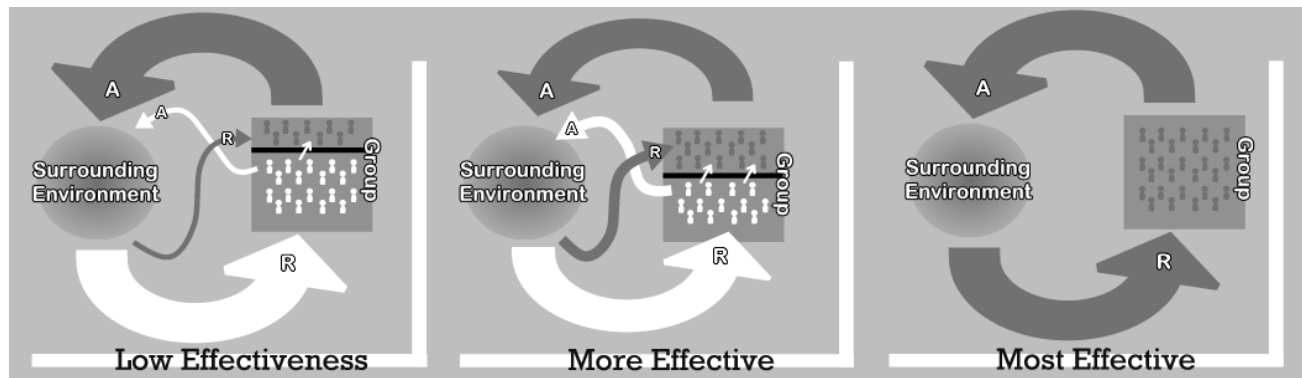
Figure 1 Feedback Loops. A = Action, R = Reaction.

Efficasync, like a revision control system[3] for software, or like a wiki page for text, offers a way to coordinate changes made on a shared set of information by many different contributors. This coordination assists a group's governance, which always contains conflicting perspectives, in the perpetual effort to avoid succumbing to its own complexities and contradictions so that it may constructively advance the group. Ideally, an Efficasync group's membership is constantly, though often asynchronously, debating and voting among the different versions that any member may propose about any element of their governance. Hopefully this constant vigilance by members will preserve those element versions that remain beneficial over different circumstances, and alter other elements to the version which best suits the present circumstance.

The elements which govern an Efficasync group compose a modifiable web of self-reinforcing ideas. The web, called the 'meta-graph,' is the graphical interface (see figure 2) members use to visually explore their organization's governance, hopefully in a more intuitive and efficient way than pouring through books of legislation. The interface requires each governing element to be categorized along an 'ends' and 'means' spectrum, where each 'mean' element (closer to perimeter) is visibly and logically justified by being linked to one or more 'end' elements (closer to center.) If the interface successfully improves the accessibility and understanding members have of their group's governing elements, and encourages more eyes to look in that direction, then there is great pressure on members to craft elements capable of maintaining the continuous approval of a membership ready and able to alter or discard those elements which fall out of their favor. The meta-graph becomes a marketplace of competitive ideas, where each member spends their equitable currency of votes. This web is open to the creativity and scrutiny of all group members. Importantly, the meta-graph is merely a planning document and, like all documents, has no agency by itself. Only when the physical actions of the planners are voluntarily applied in the ways expressed by their plans, may a group's meta-graph become part of a legitimate efficacy.

Planners of law have a loose similarity to designers of computer programs, in that both try to create the correct conditions for the realization of particular intentions. Efficasync is meant to be used somewhat analogously to a programming environment, where programmers have the tools to write, update, and debug pieces of digital logic. Efficasync describes tools used by a more-general type of programmer called a 'citizen,' to write, update, and debug democracies. As mentioned above, this document uses many

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[3] Otherwise known as a 'concurrent revision system,' often referred to by its acronym, CVS.

analogies to the world of computers and programming because of their utility in the domain of self-governance. In this vein, a group's system of governance can be thought of as a computer's operating system (OS.) Both an OS and a government have the ability to coordinate activity and delegate resources among the constituent parts of a system. As with all pieces of software, operating systems may be one of two varieties: open-source or close-source. Open-source operating systems allow every user direct access to their copy of the underlying code, so the user can examine and learn how the system works, and possibly fix problems or make improvements, which can then be shared with the group that uses the OS. Other systems, called close-source, restrict this access to an elite group of experts whose profession is to maintain the code. Efficasync was created in the former paradigm, and encourages the investigation of its code by every person affected by its code. It is the business and responsibility of every citizen to known and affect their government.

At its core, an Efficasync group is playing a game of Nomic. Nomic was created by Peter Suber[4] and can be described as a game where "changing the rules is a move." Efficasync is a governing Nomic, where the people governed are the same people who do the governing, by setting-up and changing the rules they live by. The term 'rule' is being used here synonymously with the terms 'element' and 'version' above. Efficasync describes an initial collection of elements and versions, called a 'graph-set,' which acts as a starting point from which groups can customize their own systems of coordination. A group may initially seed their meta-graph with the graph-set provided below, so they do not have to start the self-governing process completely from scratch[5]. Suber uses the term, 'self-amendment,' when expressing a group's ability to alter its own rules. Groups using Efficasync are expected to expand and change, to self-amend, the initial graph-set presented here to better fit with their specific circumstances and needs. Hopefully, alternative initial graph-sets will become available if this document accrues enough mindshare.

The fist section of this document describes the meta-graph in greater detail. The second section provides and explains an initial set of governing elements. The last section will talk about some of Efficasync's implications.

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[4] Suber, P. (1990). *The paradox of self-ammendment: A study of the law, logic, omnipotence, and change*. New York: Peter Lang Publishing. Retrieved June 26th, 2007 from http://www.earlham.edu/~peters/ writing/ nomic.htm.
[5] The meta-graph is loosely analogous to both a GUI (in that it visually displays data) and a software language (in that it provides some syntactic structure.) In this analogy, the graph-set is a library of functions written in that language. The Nomic is a function in this library.
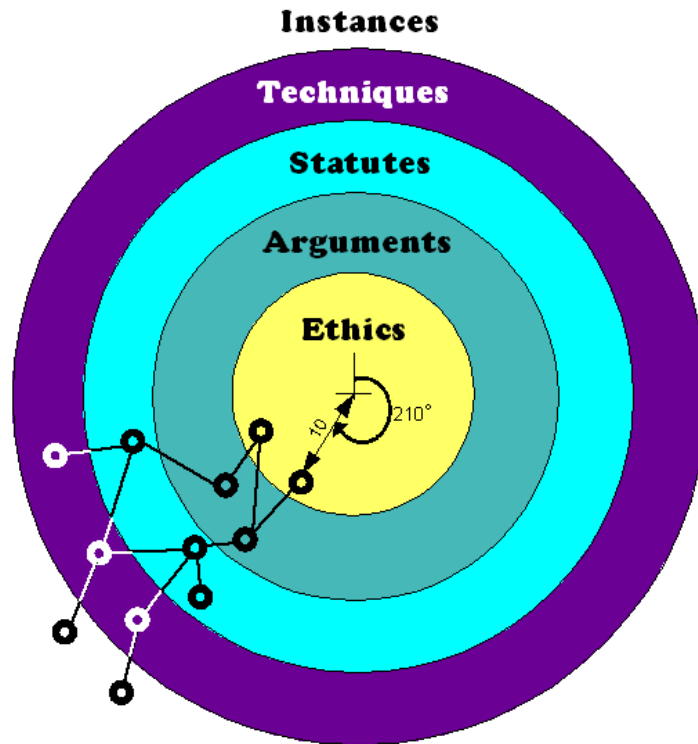
Figure 2, The meta-graph

Section 1 –The meta-graph.

An Efficasync group's beginning document, their meta-graph, has four concentric circles (See figure 2, above.) Group members will eventually populate the circles with 'nodes,' which are simply containers holding different types of governing messages. Nodes were referred to as elements in first section. The graph-set offered below is a suggested set of initial nodes for use by new groups. Each area on the meta-graph represents one of five different types of nodes, and all the nodes in a particular area must be of that area's type. From the innermost circle outwards, the node types are 'Ethics,' 'Arguments,' 'Statutes,' and 'Techniques.' The area outside the fourth circle contains nodes of the 'Instances' type. These categories compose the continuum Efficasync uses in bridging a group's principles to their actions. The meta-graph has a polar coordinate system, where any node's position can be described with both its radius from the circles' center point and its angle as measured clockwise from the circles' positive vertical axis (again, see figure 2.)

There is a hierarchical relationship between the circles on the meta-graph. Distal[6] nodes need to be grounded (a word that will be used interchangeably with 'justified' and 'premised') by being linked to proximal[7] nodes. Links are represented by lines on the meta-graph. For instance, a statute node can be grounded by linking it to one or more argument or ethic nodes. Considered from the opposite direction, that same statute node can be the justification for nodes of greater radii like techniques and instances. Even within a given circle, a more proximal node may be used as justification for a more distal node so, for example, one argument may be the basis for another argument. A node's

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[6] Nodes with greater radii, which are farther away from the center point.
[7] Nodes with lesser radii, which are closer in to the center point.

grounding represents the conceptual support that legitimizes the node's existence, and accurately places it in an encompassing constellation of ideas. Importantly, ethics nodes are the most fundamental justifications on the meta-graph, and are only grounded with other ethics or else left ungrounded.

The different node types each have unique meanings in the meta-graph context:

- *Ethic* nodes are the ultimate premises upon which everything is ultimately based. In this context, ethics are the ideals and moral principles by which a group of people profess to exist. They comprise a group's cultural foundation.
- *Argument* nodes are the logical and philosophical extensions of ethics. They develop the implications and consequences borne by a set of ethics. Arguments need to explicitly show the steps between their premises and their conclusions so that their logic is visible and open to inspection and critique.
- *Statute* nodes are laws delimiting permitted action from unacceptable action. Statute nodes may also describe legal rights and protections granted to the group's membership.
- *Techniques* nodes are recipes explaining one way to achieve a desired result. Any given result may be achieved by many different techniques. Techniques can be offered as a voluntary resource, or mandated as a regulation to explain how something is supposed to be done. For example, local government meta-graphs might have techniques that describe regulatory, infrastructural, economic, public services, maintenance, agricultural, and organizational processes. Business meta-graphs might have techniques that describe managing, scheduling, buying, stocking, manufacturing, cleaning, customer service, cooking recipes, and uniforms. A large archive of techniques can be a helpful resource in unexpected situations.
- *Instance* nodes represent specific groups, institutions, or tools which are organized to carry out the techniques they are premised upon. Instance nodes can be used in various ways including the recording of existing instances, constraining the function/purpose/ number of instances, or calling for the creation of new instances.

The meta-graph is not static. Nodes may appear and disappear, or change position. For example, if a new more fundamental ethic was written that seemed to be a premise for other pre-existing ethic nodes, those nodes could either be moved to the outer rim of the ethic circle, or completely reclassified (and rewritten) into arguments. Alternatively, a node that is no longer considered relevant by the membership can be removed. Removing nodes creates the possibility of ungrounding and 'orphaning' more distal nodes. Ungrounded nodes are undesirable because their presence weakens the self-consistency of the meta-graph as an integrated whole. The initial graph-set provides statutes, techniques, and arguments explaining how nodes may be changed and rearranged. However, just like any node in the meta-graph, these statutes and techniques may be redefined by the group.

Taken as a whole, the meta-graph represents a progression from abstract ideas in the center (ethics) to concrete task groups or tools at the rim (instances.) This span actually allows the meta-graph to be built in four different ways. Deductively, a group can start by placing concepts they wish to uphold, such as 'sustainability' or 'nonexploitation' or 'productiveness' or 'freedom,' in the center of their meta-graph, and then build the arguments, statues, techniques and instances that will embody such concepts in the physical world. Oppositely, a group can proceed inductively by initially recording their subgroups, then recording how those groups carry out their functions, then creating statues that encode acceptable group functions, then creating arguments explaining why such functions are acceptable, and end by listing the ultimate reasons for the functions. A third possibility, the one used by this document, starts by populating the middle sections of the meta-graph, and then inductively and deductively works towards the center and outer-rim of the graph. Lastly, graphs may be filled from the center and the rim at the same time, however this method seems potentially problematic because there are two, possibly conflicting, currents of growth. Yet, this last strategy is believed to be the inevitable situation of more established and mature graphs, which will probably have to deal with multiple currents of change. It seems best to delay such problems, by using one of the first three methods, until they are unavoidable.

Ideally, a group will continuously improve their operations by examining their meta-graph, finding problems, and fixing them. For example, a group member could trace the way her group's safety committee, which is an instance, ultimately fulfills whatever ethics it is grounded in by examining the intervening arguments, statutes, and techniques. If she spots a problem, such as the graph having an argument for employee safety but lacking a statute mandating periodic safety training, she can propose the fix. In this way, oversight is accomplished by members comparing their group's defined intentions, as represented by its ethics and arguments, with the reality produced when the group's instances carry out their techniques.

The next section presents a set of techniques, statutes, and arguments a local-governance group can use to initially populate a new, still empty, meta-graph. This graph-set is given the name 'Starter1' to distinguish it from other graph-sets that will hopefully become available. This collection provides a group the basic mechanisms and structure to begin 'talking about itself,' and assemble its own distinct graph. Any group using Starter1 will have to eventually ground the nodes it supplies by fully working out their logical and ethical justifications.

Section 2 – Starter1: An initial graph-set.

NODE 01: ARGUMENT: ORGANIZATIONAL BALANCE: GROUNDING --: 1. A system that contains excessive disorganization will have difficulty executing its operations. 2. A system with excessive organization will be unable to innovate and adapt to changing circumstances. 3. A system achieves a desirable balance between organization and disorganization when it can both effectively carry out its operations as well as successfully evolve in changing contexts. ♣

NODE 02, ARGUMENT, MAINTAINING A DESIRED STATE, GROUNDING --:
1. A negative-feedback loop is where a system's output becomes an input to the system (such as information) and is used by the system to alter itself towards a desired state. 2. A negative-feedback loop is most effective when it acts in the way that maximizes the system's congruency with the desired state. 3. Systems composed of people achieve greater negative-feedback loop effectiveness as more people who are capable of deciding the system's output are also capable of directly sensing information about the effects of that output (in addition to learning about effects from secondary sources), and consequently can change their next output in light of this new information. 4. Groups of people operate within a system of shared allowances and constraints. 5. A group which allows each of its members the ability to alter their shared allowances and constraints is called a nomic. 6. Nomics, whose members are informed through their own direct experience and the direct experience of others, have the information to make effective alterations to their group's system. 7. A people structured as a nomic can best maintain a desired state. [(1+2+3)+(4+5)]->6->7 ♣

NODE 03, ARGUMENT, LEGITIMATE EFFICACY: GROUNDING --: 1. Efficacy is the capacity to produce a desired result or effect. 2. Something is legitimate if it has relatively undisputed credibility and is logically inferable and is in accordance with established principles. 3. A group that directly-democratically creates procedures for selecting and implementing collectively-desired results implicitly appoints each group member as a judge of the group's credibility, logic and principles. 4. Directly-democratic groups arranged in this manner offer their members efficacy, and place the ultimate source of legitimacy in their memberships. 5. Directly-democratic groups innately hold a principle of voluntariness because they allow their members the capacity to affect the group's governance however the members wish. 6. Coerced action, which is action one carries out against one's will, is not in accordance with the direct-democracy's principles, and thus is illegitimate by the group's principles. 7. Thus only voluntary action may be considered legitimate efficacy in a directly-democratic group. ♣

Node 04: STATUTE: META-GRAPH LAYOUT: GROUNDING 01: The meta-graph will consist of four concentric circles. From the inner circle out, the circles will be named Ethics, Arguments, Statutes, and Techniques. The area outside the circles is labeled Instances. All nodes within an area must be of that area's type.

[The text from the bulleted list on page 6 is in this node as well.]

There can be up to 10 ethic nodes, 100 argument nodes, 1,000 statute nodes, and unlimited technique and instance nodes[8]. ♣

NODE 05: STATUTE: META-GRAPH ACCESSIBILITY: GROUNDING 02, 03:
The meta-graph must exist in a form easily accessible to all group members which, in this case, will take the form of a website. It is assumed many group members will own computers from which they will access the website. For members not owning a computer, a **computer lab** will be created that offers access to the website for at least 10 hours a week (available in at least 2 hour long continuous time periods). Additionally, **basic competence training** explaining how to view and modify the meta-map, cast votes, view lists, make proposals, and participate in deliberations will be available. ♣

Node 07: STATUTE: META-GRAPH NODE MUTABILITY: GROUNDING 02:
Each node, at any given time, is either mutable or immutable. An immutable node, designated by placing a '0' in front of its node number, must be changed into a mutable node before its existence or content can be altered. Any mutable node of the group's meta-graph may be altered by group members' proposals, nodepages, or shifting version votes (see nodes 014, 010, and 012 respectively). Immutable nodes cannot be the object of any proposals (except one altering its mutability) and cannot accept any new nodepages. All version votes inside an immutable node are frozen to their nodepages, and nodepage may not be removed or added while the node is immutable. Members may change immutable nodes into mutable node, and vice-versa, by making a successful proposal to that effect. Newly created nodes are considered mutable. ♣

Node 08: STATUTE: META-GRAPH CYCLE: GROUNDING 01: The cycle of the meta-graph is 4-week period of time. The year's first cycle starts on the first day of the year at 12:00am, and ends as close as possible to the end of the year. If not more frequently, a 'snapshot' or record of the meta-graph's state is made and archived at the end of each cycle. The entire membership of the group, except for **essential positions**, must be unobligated by work on the second Sunday of each cycle so that everyone has the opportunity to attend the assembly. Those members holding essential positions must be scheduled so that they may attend at least every other assembly.

At the beginning of each cycle, the Active Group Population (AGP) of the last cycle will be calculated. A group member is included in the cycle's AGP if they carried out at least one Write Access action listed in Node 010 during the previous cycle. ♣

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[8] This language shows a possible constraint groups could use to limit their meta-graphs' complexity.

Node 09: STATUTE: META-GRAPH NODES: GROUNDING 04, 07, 08: Nodes will appear as small rings on the meta-graph, each with a unique number and name. Each node requires a name, a type, links to grounding nodes, its polar coordinates (radius, angle) on the meta-graph, and at least one nodepage. Nodes must be grounded, or justified, by having a link to at least one node more proximal than itself. A node (a) does not need a direct link to a grounding node (b) if (a) already grounds to another node (c) that itself links to node (b.) However, (a) may directly link to (b) to show emphasis. A node may become ungrounded, or 'orphaned,' if the nodes that justified it are removed. Nodes that become ungrounded must be regrounded in 4 cycles or else be removed at the beginning of the 5th cycle. Boldfaced words in a node's text are suggestions by the node's author for the creation of other nodes that extend the current node (where the current node will be the grounding for the suggested extending node), and further clarify the boldfaced subject (see Nodes 03 and 06 for examples.) Any node may be extended regardless of the presence or absence of boldfaced suggestions.

Nodes must be written with easy language that is accessible to as many group members as possible. However, this simplicity of language must be balanced so as to not restrict useful language from appearing. ♣

Node 010: STATUTE: META-GRAPH NODEPAGES[9]: GROUNDING 09: Nodes contain at least one nodepage. Nodepages are different versions of the node's content. When a node is initially created, it will have only one nodepage. If members wish to change the content of the node, they must copy an existing nodepage (the parent), alter parts of its content, and post this copy as a separate nodepage within the same node. Any content in the new nodepage that is different from it parent must be highlighted. If a new nodepage offers to delete, rather than modify, part of its parent's content, this part must shown as ~~strikethough~~ and highlighted in the new nodepage. All nodepages (except the initial one) must state which nodepage is their parent. New nodepages cannot be created in immutable nodes.

Version votes (see node 012) are cast on nodepages. The nodepage with the most version votes is considered the active nodepage for that node, and its contents are to be used by the group. Any nodepage that goes 1 cycle without having an amount of version-votes equivalent to 1/50 of the current cycle's Active Group Population (which is calculated at the beginning of the next cycle) is removed from the node at the beginning of the next cycle. A node is removed from the meta-map if it goes two full cycles without containing any nodepages. If a nodepage become the active nodepage, any ~~strikethough~~ text it contains is removed. ♣

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[9] See Figure 3.

Node 011: STATUTE: GROUP MEMBERS' META-GRAPH READ/WRITE ABILITIES: GROUNDING 05, 010, 014: Each group member has complete read access to the meta-graph.

a) Write Access:
Version Votes: Once a cycle, a member may cast, leave alone, reassign, or remove the 1 version-vote that each member is allowed to have in each node of the meta-graph. (See Node 012 below).

Attention Votes: Each member may cast 2 attention-votes each cycle. (See Node 012 below).

Proposal Votes: Each member may cast 1 vote on each proposal per cycle. (See Node 012 below).

Nodepages: Each member may post 2 new nodepages per cycle.

Proposals: A member may create 1 new proposal each cycle. (See Node 013 below).

Deliberations: Each member may participate in any and all online deliberations and assembly deliberations. ♣

Node 012: SATUTE: META-GRAPH VOTES: GROUNDING 011: A group member may cast version-votes, attention-votes, and proposal-votes. These votes are considered anonymous because only the number of votes an item receives is visible to other group members, and not who cast the vote.

Votes may be submitted either over the website, or in-person at the meta-graph office. Identity information of the voter is needed during the cycle in which the vote is cast to ensure compliance with voting limits, but this information is erased at the start of the next cycle.

Version-Votes: Version-votes are cast on nodepages, and signal which nodepage in a node a member most agrees with. Therefore, a group member may cast only one version-vote among all the nodepages of any given node. A version-vote will last indefinitely, or until the member who cast it reassigns or removes the vote. For each node, once a cycle, a group member may either:
- cast a version-vote to a nodepage within a node that does not already have a version-vote from that member, or
- leave their existing version-vote on the same nodepage in the node, or
- move their existing version-vote to another nodepage within the same node, or

- remove their existing version-vote from the node all together.

Attention-Votes: Attention-votes can be cast on a node, nodepage, proposal, or deliberation in order to heighten its awareness to the group. At least once a cycle, a list of those items with the most attention-votes is posted for all the group members to see what is getting the greatest consideration (see node 013). A member may not assign more than one attention-vote to the same item. All attention-votes are erased at the end of a cycle.

Votes on Proposals: Each member may cast 1 vote on each proposal, one time over the life of the proposal. (See node 014.) ♣

Node 013: STATUTE: META-GRAPH LISTS: GROUNDING 011, 012, 014: At least once every three days, the following lists will be compiled and displayed conspicuously on the meta-graph website and at the meta-graph office:

- The top 10 nodes based on having the most attention-votes.
- The top 10 nodes based on the greatest number of changed version-votes.
- The items that will be discussed during the cycle's assembly. (These are the AAI proposals that were accepted from the previous cycle. See node 014.)
- The top 10 most active items being deliberated in the online forum (See node 17.)
- The names of new nodepages created in the current and previous cycles.
- The names of all proposals made in this cycle.

An internal list, unavailable to the public, of the Active Group Population (AGP) is created at the beginning of each cycle by placing the name of each group member who, during the previous cycle, carried out any of the write actions listed in node 010. A visible list of all the group members will be kept, and updated within two cycles of a member entering or leaving the group. ♣

Node 014: STATUTE: META-GRAPH PROPOSALS: GROUNDING 07, 08: There are five types of proposals:

Meta-Graph Proposal: A member proposes a specific alteration to the meta-graph. A proposed alteration is the only way to introduce a new node, remove an existing node, combine several nodes together, divide one node into several, toggle a node's mutability, or modify an existing node's title, link or position.

Committee Proposal: A member proposes a new committee (see node 015), or a change to an existing committee. A proposal for a new committees must explain its purpose (it's mandate), the length of its existence, how members are selected to serve, how long members serve, details of what is to be accomplished or produced, resources it will need in the form of a budget, and its justifying nodes.

Meta-Proposals: A member proposes one of two options. First, that two or more current proposals address similar issues, and should be visually associated with each other so that proposal voters may consider each proposal in light of its related proposals. Second, that some currently visually associated proposals do not address similar issues and should be visually disassociated from each other.

Assembly Agenda Item (AAI) Proposal: A member proposes that a certain issue be included in the next cycle's face-to-face assembly deliberations. An assembly agenda item proposal may suggest a new topic, may suggest a topic under discussion in the online forum, or may target an existing proposal.

If an existing proposal is targeted by an AAI, and the AAI is accepted, then the votes cast on the targeted proposal are ignored because it will be voted upon in the assembly. However, it is still in the interest of members to vote on the targeted proposal during the cycle because all proposal votes are counted at the end of the cycle, and therefore the AAI's acceptance is unknown until all voting stops for the cycle. If the AAI is not passed, then the votes on the target proposal decide if it passes.

Miscellaneous Proposal: A catch-all category for all other types of proposals.

Each proposal shall have a title, a type, a summary, and any documentation its creator wishes to include.

Proposals are only considered active for the cycle in which they are created. During a proposal's active period, each group member may cast 1 vote onto each proposal. During the current cycle, the instant any meta-proposal receives a number of votes equal to half the previous cycle's AGP, the proposals it associates or disassociates are visually grouped or separated. For all other proposal types, votes are tallied at the end of the cycle. Assembly agenda item proposals that received a simple majority (over ½ majority) of the cycle's AGP are accepted, and a list of AAIs (in an order defined by greatest to least accepting majority) is created for the assembly. Meta-graph and committee proposals that received 2/3 of the AGP will be accepted and their alterations to the meta-map will occur at the beginning of the next cycle. Miscellaneous proposals need to 2/3 of

the AGP to be accepted. Rejected proposals are erased at the end of their active period.

Members can sign their proposal, or leave them anonymous. Proposals may be submitted either over the website, or in-person at the meta-graph office. Identity information of the proposer is needed during the cycle in which the proposal is made to ensure compliance with proposing limits, but if the proposer wishes to be anonymous, their identity information is not made visible on the proposal and is erased at the start of the next cycle. All proposals are posted both on the group's website and at the meta-graph office as conspicuous lists. Proposals that are deemed related by an accepted meta-proposal are conspicuously shown to be related. Each related proposal can be voted on the exact same way that unrelated proposals are voted on. ♣

Node 015: STATUTE: META-GRAPH COMMITTEES: GROUNDING 01, 02, 014:
A committee is a small group of people who work together to achieve a goal. Committees may be better able to achieve goals than larger groups due to their limited size. A committee may not change any part of the meta-graph directly, but may create or assemble information for use by the entire membership, who may then attempt to change the meta-graph based on this information. Anything a committee produces is available to the membership.

A committee may exist for a set amount of time, at the end of which it can be renewed through a passed committee proposal. Alternatively, committees may last indefinitely, in which case the committee ends when a committee proposal terminating it is successfully passed.

A committee is created through a successful committee proposal. ♣

Node 016: TECHNIQUE: META-GRAPH ASSEMBLY: GROUNDING 014, 013:
The list of accepted AAI proposals from the previous cycle are compiled into a list called an 'agenda.' Within the first day of a new cycle, the agenda will be posted on the meta-graph's office and website.

An assembly of group members will meet in a face-to-face manner on the second Sunday of each cycle at 10am to discuss the agendas items. The assembly's proceedings are recorded, with special attention to ensure that speakers are clearly heard. This recording will be made available to the entire group as soon as possible, but no later than three days after the assembly. Each assembly will have a staff consisting of a moderator, a timekeeper, a que keeper, and a front door usher.

Moderator: Enforces the structure of the debate and watches for procedural signals from attendees.

<u>Timekeeper</u>: Limits each speaker to no more than 90 seconds, and gives a 60 second warning by saying 'Minute.' Also records the amount of time each agenda item consumes.

<u>Que Keeper</u>: Maintains the order of speakers. Que Keeper may choose to visually assess which members wish to speak and their order, or may choose to have members give the Keeper their name. The Que Keeper calls the name of the next speaker when the current speaker finishes.

<u>Front Door Usher</u>: Keeps an accurate count of the number of people currently in the assembly.

In the front of the room, large and visible to the entire assembly, will be a clock which will be accurately synchronized to the Time Keeper's watch.

For each agenda item, the proposer first reads an introductory statement, lasting no more than 2 minutes. After this introduction, the Que Keeper calls the first speaker. Only one speaker may have the floor at a time. Any member, including the proposer, may get in the speaking que as frequently as they wish. The speaker clock begins when the speaker begins.

An agenda item ends in one of two ways: First, if there is a 30 second lapse in which no member speaks, the timekeeper says, "Lapse," and the item is closed. Second, if at any point during a deliberation a member moves to call the item, by saying "Call," and another member seconds the call, and if the call is supported by 2/3 of those in attendance through an assembly vote (see Node 18), then agenda item is closed. If the agenda item itself was to have a vote, then that vote will take place upon the item's closing. A Call (and its votes) may occur while a member is still speaking.

While speaking, a member may move to amend an agenda item which is to be voted upon by saying "Amend" and explaining the nature of the amendment. This amendment passes if it receives a simple majority vote of the attendees, and the agenda item is altered by the amendment. However, the altered agenda item itself may still need to be voted on for ratification. An amendment may call for a change to the item's content or procedure (such as delaying the ratification vote for another cycle so people have more time to consider the changes.)

Some agenda items may call for a vote after their discussion, while other may not. Any agenda item that is equivalent in its effect to a meta-graph or committee proposal (see node 014) requires a 2/3 of the attendees to pass. Other agenda items only require a simple majority to pass, unless the assembly amends a different passing requirement to the item.

The next agenda item is started once the current item ends. A hour lunch break occurs between the two agenda items most near 12pm. ♣

NODE 17: TECHNIQUE: ONLINE DELIBERATIVE FORUM[10]: GROUNDING 016: On the same site as the meta-graph, there will be a space for members to create new topics for discussion, post messages to any topic, and read the messages of other members. Each topic will be placed in its own thread, but within a thread there will be no nesting. Any topic can be created in the forum without first creating a proposal. Any topic that fails to receive new messages for three cycles is archived and removed from the forum's primary space. Members' message may only contain text, and not exceed 500 words in length. Messages may be anonymous or signed. ♣

NODE 18: TECHNIQUE: ASSEMBLY VOTING: GROUNDING 016: Whenever a there is a move to amend an agenda item, or a seconded moved to call an item, members in favor of the move will raise their hand. The moderator will count the number of hands, and with the front door usher's current attendance count, calculate the percentage agreeing with the motion. The moderator then says, "Approved," or "Denied," depending on the vote's outcome. The regular activity of the deliberation may continue during the vote.

 Before the vote takes place a member may say 'Secret Ballot,' and if seconded, will force the vote to be conducted in the following way: Each member writes their vote on a slip of paper, and places it into a box. The moderator counts the ballots and then announces the results. A secret ballot vote on a move to call the item does not stop speakers from talking while the vote is taking place. However, if the move to call passes, deliberation on the item stops immediately. ♣

NODE 19: STATUE: MG BUDGET[11]: GROUNDING 01, 02, 03: There will be a **current budget** instance node that will contain a list of items to be funded by the group. The length of time this budget is to direct the group's spending must be explicitly stated, but is usually one year. Each budget item must list an amount, source, reason for funding, and whether it is intended to be reoccurring in future budgets or not. The current budget node should be made immutable, through a passed meta-graph proposal, for the term funded. However, at any point this node may be made mutable, through a passed meta-graph proposal, if the group is dissatisfied with the budget and wishes to make changes. The year before a budget is to take effect, the **next budget** instance node will be the workplace where the membership will decide how to allocate its

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[10] An instance node, justified by this node, could contain a link to the forum mainpage. This instance node would specify the implementation of the forum, possibly phpBB or Scoop or whatever.

[11] This budget node is more for a local government. A business' budget node might weaken the desire to be immutable, because of the higher probability that spending priorities will frequently change.

resources. The next budget node must have the support of the membership, as shown by being made immutable, by 12am January 1st of the year it is to take affect. Otherwise no spending will occur until a budget is made immutable.   ♣
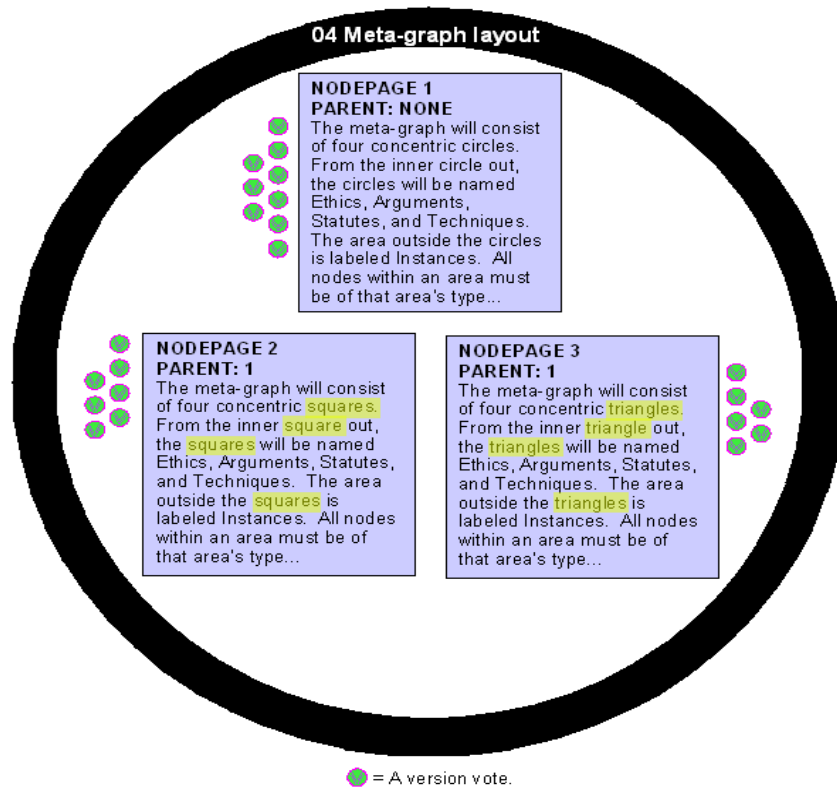

04 Meta-graph layout

NODEPAGE 1
PARENT: NONE
The meta-graph will consist of four concentric circles. From the inner circle out, the circles will be named Ethics, Arguments, Statutes, and Techniques. The area outside the circles is labeled Instances. All nodes within an area must be of that area's type...

NODEPAGE 2
PARENT: 1
The meta-graph will consist of four concentric squares. From the inner square out, the squares will be named Ethics, Arguments, Statutes, and Techniques. The area outside the squares is labeled Instances. All nodes within an area must be of that area's type...

NODEPAGE 3
PARENT: 1
The meta-graph will consist of four concentric triangles. From the inner triangle out, the triangles will be named Ethics, Arguments, Statutes, and Techniques. The area outside the triangles is labeled Instances. All nodes within an area must be of that area's type...

⬤ = A version vote.

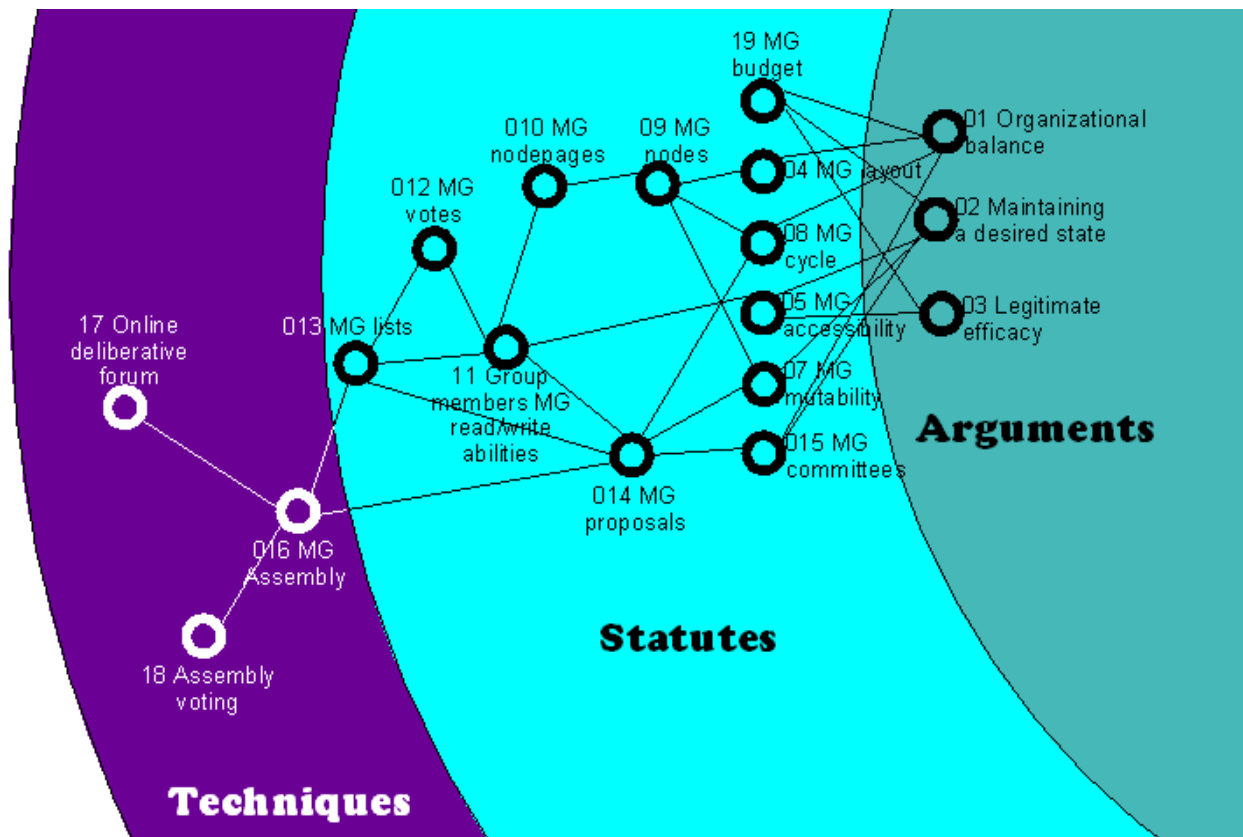**Figure 3, A representation of a node with three nodepages.**

Figure 4, The nodes of Starter1 on a meta-graph.

Section 3 – Implications

Introducing New Graph-Sets and Their Compatibility with Existing Nodes

It is anticipated that graph-sets will be exchanged between Efficasync groups, just as programmers share libraries. Exchange can happen because nodes are modular (their representation and connectivity are standardized.) Therefore, it is easy for one group to copy a set of nodes found in another group's meta-graph, if the first group wanted to emulate whatever aspect is governed by those nodes in the second group. Sometimes the borrowing group will be able to link the new nodes into their existing groundings. Other times this may be very difficult. Because the borrowed graph-set was initially created in a foreign meta-graph, which had its own unique grounding arguments and ethics, the borrowing group might have difficulty tying a non-native group of nodes into its own established arguments and ethics.

Groups have several options when facing the issue of foreign-node compatibility. A group may choose to modify their groundings to create compatibility if the changes needed are few, simple, and do not create additional internal problems as their altered meanings cascades distally throughout the meta-graph. However, if the changes seem too drastic, the group may decide the foreign graph-set is not worth the disruption its incorporation will cause. In this case, the group may attempt to mimic the ideas of the foreign graph-set by building it "in-house," which will ensure congruity with the group's own groundings. Alternatively, through struggling to incorporate the ideas of a foreign

group-set, a group may come to see those ideas as truly incompatible with the group's foundation, and choose to reject the once-attractive ideas. Compatibility may be less of an issue for Efficasync groups that began with an identical or similar set of ethics and arguments.

Separating Complex Ideas into Many Nodes/ Combining Similar Ideas into One Node

The amount and extent of content a given node may hold is left undefined by the 'Starter1' initial graph-set. If a group wishes, it can create a statue defining an appropriate node length. Or a group may choose to not formally codify node length, and instead deal with excessive nodes individually, should they arise. While node length may be easily solved, the extent of an idea that a node should contain is a more difficult dilemma.

Is it better to keep a complex idea together in a single node, or is clarity achieved by containing its subparts in their own nodes? The practical answer is not yet known, but here is a political answer: If there are aspects of the node that frequently change, the group may be well-served by capturing those volatile parts in separate nodes. This way, the stable parts of the main idea can be removed from those parts involved in conflict. However, maintaining the unity of a single complex idea within one node affords that idea a protection against fast changes, because all changes will occur by the shifting preference between the nodepages within that one node, instead of changes happening in several nodes at the same time. The original question taken from the opposite perspective, "Should related but separate nodes be combined together?" can be answered in the same way: If the distinct, but closely related, nodes do not undergo frequent change, then a group may find utility in their combination. This aggregation can be used by those interested in slowing an idea's rate of change.

Policies, Strands, and Braids

If 'policy' is defined as an intentional course of action taken to pursue a desirable outcome, one can view the network of nodes composing meta-graph as several overlapping and reinforcing policies. Each pathway, or 'strand,' from an instance to a statute, argument, or ethic may be considered a policy.

A group may wish to choose between multiple policies to achieve a given goal, and yet retain the unused policies for a later time. The group may build a cluster of strands in their meta-graph, known as a 'braid,' which all address the same goal. The strands of a braid may start from different instances or techniques, and run through different intermediate nodes, but they will all converge to the same statute, argument, or ethic. Only one strand of a braid, the one judged by the group to be the most currently relevant, would be active at a time. The others lay dormant (see figure 5 below.) The group would have to compose the nodes that implement this ability, for they are not provided in Starter1.

This possibility creates a meta-graph with a combination of usually active, intermittently active, and usually dormant strands. In this way, a group may prepare in advance for different possible situations, and activate the best strand (as judged by the group) to effectively deal with the incoming situation. Alternatively, the group may decide to hold a single policy for achieving a goal.

Just as a node can assume one of the various versions denoted by its nodepages, a braid can assume one of the various versions denoted by it strands.
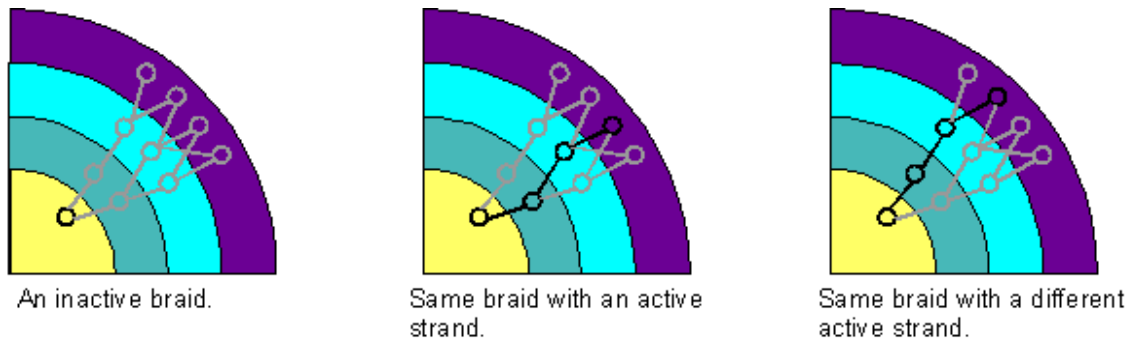

An inactive braid.   Same braid with an active strand.   Same braid with a different active strand.

Figure 5, A braid with strands.

Infecting Meta-Graphs

Just as the term 'infection' is used in describing how memes[12] transfer from one mind to another, meta-graphs may also be infected with nodes from external sources. The word 'infection' is not meant to denote a negative connotation and, as speculated above, many groups will likely intentionally infect themselves with nodes from other groups. In fact, any group that adopts Starter1 as their initial graph-set is choosing to infect themselves.

Conceivably, a group may ask experts of various fields to infect their meta-graph with knowledge. For example, a group may wish to know how lighting fixtures can be wired to receive electricity, and may hire an electrician to perform some example wiring, which is documented and placed on the meta-graph as a technique node. The group could ground such a node with a more proximal node containing a reference to an electrical wiring book.

Importantly, while the more distal elements can be easily copied from external sources, it is better for a group to work out their own ethics and arguments because these proximal elements should accurately reflect the membership's beliefs. Laboring through the process of crafting ethics and arguments helps ensure these elements are accurate expressions of the membership's will, and not merely false political expediency.

Face-to-Face and Remote Deliberation

A group's size can affect how many members engage in deliberation about its governance. For the face-to-face town meetings of Vermont, Bryan[13] discovered that, on average, 20% of a town's registered voters attend. He further demonstrated that smaller towns, especially those of less than a thousand people, have systematically higher percentages in attendance, while larger towns show a lower percentage. Bryan argues that face-to-face town meeting is a training ground where citizens learn and practice the skills that sustain a context for democracy. He illustrates how the demes of Athens,

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[12] Dawkins, R. (1989). *The selfish gene.* Oxford: Oxford University Press.
[13] Bryan, F. (2004). *Real democracy: The New England town meeting and how it works.* Chicago: The University of Chicago Press.

which were little towns that mimicked some of the democratic institutions of the polis but on a smaller scale, created the opportunity for a spatially-decentralized population[14] to practice real government and develop the skills useful for representing the deme in the larger republic. Bryan suggests the republic's sustainability depended on this de facto arrangement, where the parts where able to brace the whole.

Groups whose entire memberships are capable of writing every minutia of their governance may benefit from frequent and diverse opportunities to deliberate. Bryan makes in-person meeting a necessary condition for real democracy. The present document suggests supplementing infrequent face-to-face deliberation with continual remote message-posting deliberation. In a direct-democracy, where the people have even the ability to craft legislation, the large governing workload available to the citizenry may be better handled with this additional and ever-present communication channel. The asynchronous nature of message-posting allows citizens to create and digest content on their own schedules. Additionally, the written medium, and the optional anonymity it affords, may facilitate participation by those uncomfortable performing public speech. It may be argued that anonymous and indirect communication is of lower quality and, more importantly is less able to teach useful democratic skills than face-to-face meetings. Yet the ability to continually take part in the conversation is seen as a necessary condition for real direct-democracy. Further, the initial graph-set provided earlier calls for in-person assemblies of a frequency greater than Vermont town meetings. Hopefully, both in-person and remote communication can compliment one another, and offer a set of benefits outweighing any resulting degradations to the democratic process.

While implications of group size may differ between face-to-face meetings and remote deliberations, both processes may fertilize each other. Bryan's study explains some of the advantages small units of organization offer in-person meetings, such as increased participation and equity of participation. Perhaps remote deliberations may afford participation and equity on a larger scale due to the message persistence and reduced social risks provided by the medium. Yet, Bryan's economic argument that members of smaller organizational units perceive a greater return, in the form of more influence per unit of political energy expended, holds weight and supports a drive for small organizational units. Hopefully, remote discussions will engage some of those people who would otherwise not participate in person, and offer additional perspectives which may be vocalized by face-to-face participants who pay attention to the written deliberations. Conversely, silent attendees of assemblies may use the remote deliberations to express their views about the events they witnessed. Perhaps the remote deliberations will be a stepping-stone to participating in face-to-face deliberations.

The Fractal Potential of Effcasync Groups

Any group arranged in the way described by this document can be composed of subgroups also arranged in this same way. For instance, a local government organized as an Efficasync group may be the aggregation of smaller departments, also organized as Efficasync groups. So, a large scale meta-graph would create the context in which other

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[14] To be accurate, only males aged 18 and greater could participate in the deme's assembly. Blackwell, C. W., (2002). *An introduction to classical Athenian democracy – development.* Retrieved June 26th, 2007 from http://www.chs.harvard.edu/discussion_series.sec/athenian_law.ssp/athenian_law_lectures_5.pg

meta-graphs would operate. It is difficult to say that one meta-graph could be a node in a larger meta-graph, because of the current nonobviousness of fitting such a whole into one of its own parts. Yet, there is a vague sense that some type of nesting might be possible. Perhaps the meta-graphs of one scale could be represented as instances of a greater scale? Hopefully additional minds will engage this idea and devise better answers.

Congruency with Superordinate Governances

Every group of people is connected to other groups through some larger network. Networks can be defined physically (geographical characteristics, population densities), ideologically (national, corporate, religious, political, cultural), or economically (resources, capabilities, capacities, technologies), or any combination thereof. To some extent, every network depends on the services of other networks. Therefore, no group is completely autonomous and sovereign. For instance, manufacturers rely on suppliers for materials and communities for labor, and cities rely on states and nations for supplemental funding and emergency assistance.

Because each group is embedded in some larger network of coordination, a constant effort to achieve equilibrium is negotiated between the group's wishes and the wishes of its encompassing network. Some large systems of governance, including the United States, are composed of many coordination networks, each acting at a different scale or location. The U.S. federal network allows a degree of local (as in towns or neighborhoods) and organizational (as in businesses) self-governance. It is believed that these are the niches Efficasync groups can best occupy. The existence of Efficasync groups, and the niches themselves, are contingent upon a level of mutual congruency with their encompassing network of governance. Therefore, it is most likely not in an Efficasync group's interest to create governing elements that contradict laws of the surrounding network.

The Biological Metaphor

Efficasync shares some aspects of biological systems. Because the meta-graph holds data detailing the development and operation of a system, it is similar to the information encoded in a cell's DNA. Just as biological systems have ways check their DNA for damage and attempt to correct any malignant erosion they find, groups governing themselves with Efficasync can introspectively search and modify those graph elements producing unwanted outcomes. Differently however, Efficasync users can apply human reasoning in their intentional selections of 'mutations' (changes) to their code, and perhaps avoid some of the trial-and-error that biological systems must endure as random selection promotes (without empathy) those designless and unfixed mutations that happen to best fit with the environment. Additionally, activating a strand in a braid is analogous to activating a gene in a cell's DNA.

In a similar way to how young, higher-ordered biological systems grow and learn ways to negotiate their encompassing contexts over time, which involve the building and storage of mental representations in their nerve centers, Efficasync groups can do similar things with their meta-graphs. Effective governing strategies can be developed and warehoused in the graph as group members observe how their various ideas actually play out in the world. Ineffective strategies can be retained in a meta-graph's archive for

educational purposes, or for times that better fit their utility. As discussed earlier, groups can mimic one another by swapping node-sets, like biological entities learning from each other through imitation.

Some have defined life as an entropy pump[15]. Said another way, life can be seen as that quality of a system which helps pull disorder out of the system. Biological systems accomplish this in many ways including excretion of waste material, avoidance of potentially dangerous situations, creation of protective antibodies, repair of damaged DNA, and replacement of worn tissues. It makes sense that a system is ill-served by retaining the internal disorder it inevitably accumulates during its existence. Likewise, groups of humans that are able to modify or nullify internal processes that no longer serve their long-term survival interests may also be seen as removing inner disorder. However, it is anticipated that groups will have difficulty agreeing what phenomena counts as disorder, as well as which meta-graph elements are the cause of disorder. Yet, any entropy that is removed from the group can be seen as healing the group, and is part of the group's effort to maintain a stable state.

Lastly, the collectivity of small units which train a portion of their members in the ways of democratic governance may be seen as an essential tissue of a greater democratic organism. After all, the demes of Athens were, argumentatively, a vital source of capable political practitioners which replenished the attrition of seasoned government workers. The demes created environments where a person could differentiate from the initial homogeneity of youth towards an important political specialization, much as certain biological environments induce a stem cell to specialize into a heart or muscle cell. Without the replenishment of this critical tissue, there is little doubt that the larger organism's democratic ability would atrophy.

Conclusion

Any democracy is ultimately based upon trust. For a democratic group to remain as one, each member needs to believe that their fellow members are honestly working towards mutually-shared goals. Making visible those goals, and how to reach them, encourages a conversation which may build trust. By devoting time and energy to deliberate with one another the issues of their shared government, members demonstrate confidence in their group's ability to take care of itself. By apportioning the power to govern amongst its membership, the group demonstrates confidence in each member's ability and judgment to guide the group in a prosperous direction. Critically, for group members to successfully use Efficasync, each must have knowledge of how it works, a chance to put it to work, and the willingness to do the work[16]. This document offers knowledge of how a self-governed system may work. A people of mutual trust, bound together towards common endeavors by that trust, may provide the chance and willingness this document needs to become a real tool of efficacy.

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[15] Campbell, B. (1967) Biological entropy pump, *Nature,* 215. Retrieved 6-26-07 from http://www.nature.com/nature/journal/v215/n5107/abs/2151308a0.html

[16] This is the triad of ability, opportunity, and motivation talked about by M. Delli Carpini & S. Keeter, *What Americans Know About Politics and Why it Matters* (New Haven, CT: Yale University Press, 1996)